

PLATE XVII.

	Size of fig.
Fig. 1. Skull of <i>Steatornis caripensis</i> , adult, side view.	1½ diam.
2. Skull, upper view.	"
3. " lower view.	"
4. Lower jaw, upper view.	"

PLATE XVIII.

Fig. 1. Skull, end view.	1½ diam.
2. Os hyoides, upper view.	"
3. Atlas, front view.	2 diam.
4. Axis, front view.	"
5. Last dorsal vertebra, front view.	"
6. " " " hind view.	"
7. Shoulder-girdle and sternum, lower view.	Nat. size.
8. " " " side view.	"

PLATE XIX.

Fig. 1. Cervical and dorsal vertebræ and ribs, side view.	Nat. size.
1 a. Last four cervical ribs.	"
2. Pelvis and caudal vertebræ, side view.	"
3. " " " upper view.	"
4. Left leg, side view.	"
5. Part of same, front view.	"

PLATE XX.

Fig. 1. Left wing, outer view.	Nat. size.
2. Part of same, inner view.	"
3. Tarso-metatarsus, top view.	2 diam.
4. Tibia, lower part, front view.	"
5. Ankle-joint, side view.	"
6. Pelvis, lower view.	Nat. size.

2. Preliminary Notes on the Characters and Synonymy of the different Species of Otter. By OLDFIELD THOMAS, Natural History Museum.

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One of the most interesting and at the same time most difficult groups of Mammals is that of the Otters, a group which many zoologists have tried to work out wholly or in part, but which, owing to the striking resemblance of the species to one another, to the difficulties of obtaining large series, and to the variability of the different forms, has remained to this day in a terrible state of confusion, both as to systematic arrangement and nomenclature.

The present paper does not pretend to be anything like a complete monograph of the group, but only attempts to clear up such points in the history of the species as are at present capable of elucidation, while leaving for future investigation many questions which cannot be settled for want of still further material.

In connexion with this paper I have to thank sincerely Dr. F. A. Jentink, of Leyden, Prof. Pouchet and Mons. J. Huet, of Paris,

Dr. A. Nehring, of Berlin, Dr. von Lorenz, of Vienna, and Mr. J. W. Clark, of Cambridge, for assistance either by letter or by loan of specimens. This assistance has in many cases been of most material aid in making out the synonymy of the obscurer forms.

Firstly, as to the genera which should be admitted within the subfamily Lutrinæ. Putting aside *Enhydris* as unquestionably good, and *Barangia*, *Lontra*, *Nutria*, *Hydrogale*, *Latax*, and *Lutronectes* of Gray¹, and *Leptonyx* of Lesson, as unquestionably bad, we have only to consider *Aonyx*, Lesson² (syn. *Anahyster*, Murray³), and *Pteronura*, Gray⁴ (syn. *Saricovia*, Lesson⁵).

The first of these, *Aonyx*, was founded on the Cape Clawless Otter; its generic characters depending on the lesser development of the webbing between the toes and on the reduction of the claws. The latter character also occurs, in a rather less degree, in the Indian Clawless Otter, which nevertheless, as Mr. Blanford has shown⁶, presents no special genetic affinity with the African form, a fact that quite disproves its generic value in the group. The skull and dentition of *Aonyx* are wholly those of a true *Lutra*, and therefore I think it must be certainly amalgamated with that genus, of the members of which *L. barang* is apparently most closely allied to it.

The characters of *Pteronura*, again, appear to be clearly of specific and not of generic importance. The corded margin to the tail is only an exaggeration, suitable to so large a species, of the flattened state of that organ in other Otters; while in the remarkable narrowness of its frontal region, certainly the most peculiar character of its skull, this species does not differ from such narrow-fronted Otters as *L. sumatrana* or *L. maculicollis* to a greater extent than the latter do from the broad-fronted *L. capensis*, *L. felina*, and *L. paranensis*.

The whole of the living species of Otters, excepting of course the Sea-Otter, appear therefore to be most correctly placed in one single genus only. This genus, *Lutra*, has the widest distribution known among the non-volant Mammalia, its range extending over the whole globe with the exceptions of the Australasian Region, of Madagascar, and of the extreme Arctic and Antarctic poles.

Pending the impossibility of drawing up a natural arrangement, the species may best be treated geographically.

ORIENTAL OTTERS.

The synonymy of the Oriental Otters is exceedingly confused, chiefly owing to Sir Stamford Raffles, in his account of the Mammals of Sumatra, having given native names, without descriptions, to the *two* species he found there, which names were afterwards differently applied by different authors to the *three* species actually occurring in that island.

¹ P. Z. S. 1865, pp. 123-133.

² Man. Mamm. p. 157 (1827).

³ P. R. Phys. Soc. Edinb. ii. p. 158 (1860).

⁴ Charlesw. Mag. N. H. i. p. 580 (1837).

⁵ N. Tabl. R. A., Mamm. p. 72 (1842).

⁶ Mamm. Brit. Ind. p. 188 (1888).

So far as is known at present there are four well-marked species of Otter occurring in the Oriental Region, and these may be briefly distinguished as follows:—

- A. Muzzle naked. Claws large. Internal lobe of p^4 small. (“*L. vulgaris.*”¹)
- B. Muzzle naked. Claws large. Internal lobe of p^4 large. (“*L. ellioti.*”)
- C. Muzzle hairy. Claws large. Lobe of p^4 small. (“*L. sumatрана.*”)
- D. Muzzle naked. Claws rudimentary. Size much smaller than in A, B, and C. (“*L. leptonyx.*”)

The synonymy of A is happily quite clear, thanks to the labours of Messrs. Anderson and Blanford. It stands as *Lutra vulgaris*, from which I agree with Mr. Blanford in thinking that *L. nair*, F. Cuv., and *L. indica*, Gray, are not separable. To its Indian synonyms should also now be definitely added *L. chinensis*, Gray, and, as stated below, *L. aurobrunnea*, Hodgs., and *L. nepalensis*, Gray.

The history of B is much more difficult. Firstly, it is unquestionably the true “Simung” of Raffles, as evidenced by Raffles’s own specimen now in the Museum. The “Barang” of the same author is really species C; but F. Cuvier, when describing a young specimen of B, still in the Paris Museum, mistook it for the Barang, and therefore called it “*Lutra barang*,” a name which must stand as the first binomial applied to the species. This species B is therefore *L. barang* of the continental naturalists, Lesson, Fischer, and others, who followed Cuvier, but not the *L. barang* of English authors, although it should now become so. At the same time it is the *L. simung* of Lesson, Horsfield, Gray, and others. Later on, specimens of the same species received the names of *L. monticola* from Hodgson, *L. ellioti* from Anderson, a name under which Mr. Blanford has placed the species, and *L. macrodus* from Gray (see below).

The range of *L. barang* extends over the whole Indian Region from the Indus to Ceylon, and from Nepal to Sumatra. Its occurrence in Java has never been confirmed, and F. Cuvier was very possibly mistaken as to the exact locality of the type; indeed, Lesson in 1827 speaks of the species as having been discovered by Diard and Duvaucel in *Sumatra*, as though an error in the locality had been discovered in the interval.

Species C, the Hairy-nosed Otter of the Malayan part of the region, is the true “Barang” of Raffles, that author’s type having come into the British Museum from the collection of the late Dr. Crisp, and is therefore the *L. barang* of Cantor, Gray, and others, who followed Raffles’s determination. In 1865 Dr. Gray elevated the Indian Hairy-nosed Otters to the rank of a genus, and called the

¹ The names in brackets are those used in Blanford’s work (Faun. Brit. Ind., Mamm. pp. 182–187, 1888), the most recent on the subject.

present species *Barangia sumatrana*, from the original locality of Raffles's specimen, and thus making the latter individual the type of the species. This "*Barangia sumatrana*" being, as Dr. Anderson has pointed out, the first unused binomial name applied to the species, it must stand as "*L. sumatrana*, Gray"¹.

Lastly, for species D, the little clawless Otter, a different name to the well-known "*L. leptonyx*" most unfortunately has the priority. In the 'Verhandelingen van het Bataviaasch Genootschap' for 1780² Baron F. v. Wurmb gave a description of an Otter found near Batavia which he called the "Grijze Otter," and to this "Grey Otter" Illiger in 1811 applied the name of *Lutra cinerea*³. This name has never been referred to except incidentally among the synonyms of *Lutra leptonyx*, and even then it is usually without any particulars as to date or place of publication.

The reference of *L. cinerea* to *L. leptonyx* is unfortunately correct without a shadow of doubt, since in his accounts of the "Grijze Otter," Baron v. Wurmb mentions among other things that it has "ronde nagels" and is only 1 foot 6 inches long, with a tail 1 foot in length, two characters that connect it with *L. leptonyx* alone of all Otters. Again, Horsfield in his original account of *L. leptonyx*⁴ himself quotes v. Wurmb's "Grijze Otter" as a synonym, without knowing that 14 years before a Latin name, *L. cinerea*, had been applied to it, which name antedated then and must, I am afraid, supersede now the better-known "*L. leptonyx*." That the "Grijze Otter" is the same as *L. leptonyx* is also proved by the fact that no other species of the genus is as yet known to inhabit Java, unless the very different sharp-clawed *L. barang* should after all be found to occur there.

Of the names now looked upon as synonyms of one or other of the above four species, the following require some explanation:—

(1) *Lutra aurobrunnea*, Hodgs. J. A. S. B. viii. p. 320 (1839).

(2) *Barangia* (?) *nepalensis*, Gray, P. Z. S. 1865, p. 124; Cat. Carn. B. M. p. 101 (1869).

The type of the first of these descriptions is a distorted and dyed skin, and that of the second an incomplete skull. Both were presented to the Museum by Mr. B. H. Hodgson along with his Nepalese collection, and, as suggested both by Anderson and Blanford, perhaps belong to the same individual.

The skin (*L. aurobrunnea*, Hodgs.) is, I feel sure, that of an example of *L. vulgaris*, as is shown, in spite of its distorted muzzle, by the sharply-defined limit of the hair growing below the nostrils, where in hairy-nosed Otters (to which the species has been said to be allied) there is no such exact limit. The feet, again, so far as it

¹ It may be noted here that *Lutra palzindica*, Falc. and Cautl., from the Siwaliks of N. India, proves, on a direct comparison of the type, to be almost indistinguishable from *L. sumatrana*.

² Vol. ii. p. 285 of the 3rd edition, published 1826.

³ Abh. Ak. Berl. 1811, p. 99 (published 1815).

⁴ Zool. Researches in Java, 1824.

is possible to make out anything from them, are far more like those of *L. vulgaris* than *L. sumatrana*. Independently, therefore, of the skull, I should place "*L. aurobrunnea*" as a synonym of *L. vulgaris*.

The skull ("*L. nepalensis*") presents an interesting example of the difficulty of making out the species of Otter from cranial characters alone, for while both Gray and Blanford have looked upon it as showing close affinities to the hairy-nosed *L. sumatrana*, I am convinced, on the other hand, that it is only the skull of a female *Lutra vulgaris*, more or less degenerated by living in captivity.

Thus it shows unequivocal traces of confinement in the peculiarly roughened and more or less diseased character of the bone, especially round the bases of the canines. Now the only differences that I can find between this skull and that of an undoubted *L. vulgaris* (♀) lie in its rather smaller size and a general weakness in dentition, both easily explainable on the theory of the animal having been brought up in captivity.

Should this view be correct, the species (No. 94 of Mr. Blanford's work) must be altogether expunged from the list of the Mammals of British India, as both *L. aurobrunnea* and *L. nepalensis* will come under *L. vulgaris* (No. 92). Nor can its place be taken by the true hairy-nosed Otter, *L. sumatrana*, which, so far as is yet known, does not occur north of Malacca.

The individual identity of the skull of "*L. nepalensis*" and the skin of "*L. aurobrunnea*" is rendered at the same time both more probable and less important by the independent reference of each to *L. vulgaris*. It may also just be noted that the skin is clearly that of a female.

(3) *Lutra macrodus*, Gray, P. Z. S. 1865, p. 128; Cat. Carn. B. M. p. 105 (1869).

This Otter, described by Dr. Gray from two fine skins said to have come from Brazil, has long been a puzzle to workers on American Mustelidæ. The skull proves that it is entirely distinct from any previously known Brazilian Otter, and I should unhesitatingly recognize it as a valid species, were it not that no difference whatever can be found, either external or cranial, between it and the Indian *Lutra barang* (species B above). As to the locality of the types, Dr. Gray expressly states that "M. Parzudaki assured me that he had received the pair direct from Brazil, from a collector who shot them;" but in spite of this assurance I am inclined to believe that some change of specimens or other mistake occurred, and that they really came from the Indian Region. Other Brazilian specimens since received and referred by Dr. Gray to *L. macrodus* prove, on an examination of their skulls, to be really quite different from it, so that the locality for the originals has never been confirmed. Considering, therefore, these facts, I look upon "*L. macrodus*" as a synonym of *L. barang*, at least until any such Otter is found in South America—a contingency that would-be describers of new species of Neotropical Otters should be prepared for.

(4) *Lutra swinhoei*, Gray, P. Z. S. 1867, p. 182; Cat. Carn. B. M. p. 105 (1869).

This species was founded by Dr. Gray on a fragmentary skull sent by Mr. Robert Swinhoe from China. The locality was originally given as Formosa, but Mr. Swinhoe afterwards stated¹ that the Otter was obtained at Gawakang Island, near Amoy, and gave, at the same time, some observations on its habits.

The typical skull, as suggested by Dr. Anderson, proves, on comparison, to be referable to *L. cinerea*, which, alone of all Otters, is, as Dr. Gray says of this skull, "characterized by the small size of the upper cutting-teeth, the series forming only a width of $4\frac{1}{2}$ lines; while the series of most other Indian Otters occupy 6 lines, or sometimes more."

The following synonymy shows in tabular form the results arrived at in the preceding paragraphs:—

A. LUTRA VULGARIS, Erxl.

Syn. *Mustela lutra*, Linn. (1760). *Lutra vulgaris*, Erxl. (1777). *L. piscatoria*, Kerr (1792). *L. nair*, F. Cuv. (1823), Blyth (1863), Jerdon (1867), and many others. *L. roensis*, Ogilb. (1834). *L. nudipes*, Melchior (1834). *L. indica* and *L. chinensis*, Gray (1837). *L. tarayensis*, Hodgs. (1839). *L. aurobrunnea*, Hodgs. (1839). *Lutronectes whiteleyi*, Gray (1865). *Barangia* (?) *nepalensis*, Gray (1865). *Lutra angustifrons*, Lataste (1885).

B. LUTRA BARANG, F. Cuv.

Syn. "Simung," Raffl. (1822). *L. barang*, F. Cuv. (1823), Less. (1827), Fisch. (1829). *L. simung*, Less. (1827), Horsf. (1851). *L. monticola*, Hodgs. (1839), Gray (1846, 1865, 1869), Gerrard (1862), and many others. *L. macrodus*, Gray (1865). *L. ellioti*, Anderson (1873), Blanford (1888).

C. LUTRA SUMATRANA, Gray.

Syn. "Barang," Raffl. (1822). *L. barang*, Cantor (1846), Gerrard (1862). *Barangia sumatrana*, Gray (1865, 1869). *Lutra sumatrana*, Anderson (1878), Blanford (1888).

D. LUTRA CINEREA, Ill.

Syn. "Grijze Otter," Van Wurmb (1780). *L. cinerea*, Ill. (1815). *L. leptonyx*, Horsf. (1824), Fisch. (1829), Blyth (1863), Jerdon (1867), Anderson (1878), Blanford (1888), and most authors. *L. perspicillata*, I. Geoff. (1829). *Aonyx horsfieldi*, Gray (1837). *L. indigitata*, Hodgs. (1839). *Aonyx sikimensis*, Hodgs. (1855). *Aonyx leptonyx* and *indigitata*, Gray (1865, 1869). *L. swinhoei*, Gray (1867).

¹ P. Z. S. 1870, p. 625.

ETHIOPIAN OTTERS.

The Otters of the African Region present no difficulty whatever as to their definition. Two species only are known, the large clawless one of South and West Africa, and the smaller clawed *L. maculicollis*. Of the three early names for the former species authors have, as usual, carefully avoided the one that has priority, although constantly putting it down as a synonym, and have divided their attentions between "*L. inunguis*" and "*L. lalandii*."

The following appears to be the proper synonymy of the two species:—

1. LUTRA CAPENSIS.

L. capensis, Schinz, Cuv. Thierr. i. p. 214 (1821).

L. inunguis, F. Cuv. Dict. Sci. Nat. xxvii. p. 247 (1823).

Aonyx delalandi, Less. Man. Mamm. p. 157 (1827).

Lutra poensis, Waterh.¹ P. Z. S. 1838, p. 60.

Anahyster calabaricus, Murr. P. Roy. Phys. Soc. Edinb. ii. p. 158 (1860).

Lutra lenoiri, Rochebr. Vertébr. Nov. Afr. Occ. sér. 3, p. 9, 1888(?). (Privately printed, and probably not really published at all in the technical sense of the word.)

2. LUTRA MACULICOLLIS.

Lutra maculicollis, Licht. Arch. f. Nat. 1835, i. p. 89, pl. ii. fig. 1 (animal).

Lutra grayi, Verr. *apud* Gray (never described).

Hydrogale maculicollis, Gray, P. Z. S. 1865, p. 132.

AMERICAN OTTERS.

It is due to the want of material and other difficulties in connection with the American, and especially the South-American, Otters, that the present paper is necessarily only a preliminary account of the genus, and not a complete monograph. But I may be permitted to express a hope that collectors and others having opportunities of obtaining Otters from the tropical parts of South America will aid in the future revision of the genus by contributing to our National Collection any specimens that they may be able to procure.

Although, therefore, I am unable to work out the New-World Otters completely, the following points at least seem to be fairly clear, and may be of service to future workers on the subject.

As to the common North-American Otter nothing but a passing reference is necessary, as its synonymy and characteristics have been fully worked out and described by Dr. Elliott Coues². It may be

¹ This name probably belongs here, but the typical skin, being without feet or skull, it is impossible to be quite certain until further specimens are obtained from the same locality. The same may be said of "*Lutra lenoiri*" on account of the absence, as usual, of all diagnostic characters in what its describer calls a "diagnosis."

² Fur-bearing Animals, p. 295 (1877).

noted, however, that Kerr¹, and not Turton, is the earliest authority for the scientific name *Lutra canadensis*; also that F. Cuvier's "*L. canadensis*"² appears not to be this species at all, having been founded on a skull which, although marked "Loutre du Canada," proves, on a personal examination in the Paris Museum, to be really referable to *L. vulgaris*. This point is of some importance in relation to the same author's description of his "*Lutra enudris*," as the characters of the latter, which he compares to those of "l'espèce précédente," would be quite inexplicable were the latter the true Canadian Otter (his *Lutra laticoxa*).

Of the Neotropical species I may first give the synonymy of the great Margined-tailed Otter of the rivers of Guiana and Brazil. This Otter is unquestionably, as suggested by Hensel and Nehring, the original *Lutra brasiliensis* of the early authors, a name that Dr. Gray wrongly applied to one of the smaller species, while he called the present animal "*Pteronura sambachii*." The claims of this Otter to generic rank have already been discussed; its specific synonymy is as follows:—

LUTRA BRASILIENSIS.

Lutra brasiliensis, Zimm. Geogr. Gesch. ii. p. 316 (1780) (also of Kerr, F. Cuvier, Fischer, Burmeister, Hensel, Nehring, and others, but not of Gray).

Lutra lupina and *paraguensis*³, Schinz, Cuv. Thierr. i. p. 213 (1821).

*Pteronura sambachii*⁴, Gray, Charlesw. Mag. N. H. i. p. 580 (1837).

Of the other Neotropical Otters, Gray has associated the S. Brazilian "*L. platensis*" with the Chilian *L. felina*; and Alston⁵ has placed the Central-American Otter under the same specific name. The typical skull of *L. platensis* and also the specimen collected by Mr. Salvin at Santana Mixtan in Guatemala and referred to by Mr. Alston, are both, however, of the type found in Brazil and Guiana, to be referred to further on, and are markedly distinct from the true *L. felina*. The latter species is readily distinguishable from all other American Otters by its very much smaller size, the basal length of its skull being only about 80 to 85 millim. as compared to 95 or 100 in the eastern species, by its relatively shorter face, and by its lighter and more delicate teeth. The internal lobe of its upper p.⁴ is only about one half the size of that of '*L. platensis*' and its allies. The species also differs from other Otters in being almost exclusively marine in its habits.

The distribution of *L. felina* presents some points for consideration. In the southern hemisphere it extends to the Straits of Magellan,

¹ *Mustela (Lutra) canadensis*, Kerr, Linn. An. K. i. p. 173 (1792).

² Dict. Sci. Nat. xxvii. p. 242 (1823).

³ Not *Mustela (Lutra) paraguensis*, Kerr, Linn. An. K. p. 172 (1792), which is *Chironectes minimus*.

⁴ Afterwards spelt "*sambachii*."

⁵ Biol. Centr.-Am., Mamm. p. 87 (1880).

where its range meets that of the larger Brazilian Otter¹. Thence northward it is exceedingly common along the coasts of Patagonia and Chili, where the complex labyrinths of gulfs and channels are highly favourable to its manner of life. It has been found in Peru, and in Ecuador it has been recorded from San Lorenzo. In addition, it has been stated to occur in Central America, in California, and Kamtschatka. The Central-American locality has already been disposed of. That of Kamtschatka rests on two skins, now in the British Museum, received from the French dealer Verreaux in 1856, and certainly belonging to *L. felina*; their evidence, however, would no doubt have long ago been rejected, had it not been partially confirmed by Dr. Gray's description of a "*L. californica*," afterwards, and rightly, attributed to this species. The type of *L. californica* was obtained and presented to the Museum by Capt. P. P. King; but not only has the locality never been confirmed, a most significant fact in so well-known a country, but there is also no mention of California in that officer's account of his surveying-voyage. His other specimens all came from Patagonia, and I suspect that "*California*" was copied by mistake for "*Patagonia*," a word not unlike it in manuscript. My conclusion, therefore, is that in all probability the type of "*L. californica*" really came from Patagonia; that the locality of Verreaux's "*Kamtschatkan*" specimens is erroneous; that Pallas's "*Viverra aterrima*"² is not this species, as has been suggested; and as a result of these conclusions, that *L. felina* does not really range northwards beyond Ecuador.

The following is its synonymy:—

LUTRA FELINA.

Mustela felina, Mol. Sagg. Storia Nat. Chili, p. 342 (1782).

Mustela (Lutra) chilensis, Kerr, Linn. An. K. i. p. 172 (1792).

Lutra felina, Shaw, Gen. Zool. i. pt. ii. p. 448 (1800) (and of Gray and other authors referring to Peruvian, Chilian, and Magellan Otters, but not of Coues, Alston, and others describing Central-American specimens).

Lutra chilensis, Benn. P. Z. S. 1832, p. 1.

Lutra californica, Gray, Charlesw. Mag. N. H. i. p. 580 (1837).

Lutra peruviensis, Gerv. Voy. Bonite, i. p. 15, Atl. pl. iii. figs. 4 & 5 (skull) (1841).

Lutra brachydactyla, Wagn. Schr. Säug. Supp. ii. p. 261 (1842).

Nutria felina, Gray, P. Z. S. 1865, p. 128; Cat. Carn. B. M. p. 106 (1869).

Turning now to the smaller Otters of Brazil, larger, indeed, than *L. felina*, but markedly smaller than *L. brasiliensis*, we are confronted with a problem that I am as yet unable to elucidate. The characters of the nose-pad and the proportions of the skull and teeth appear

¹ One of the Otter-skins obtained by Dr. Coppinger in the Straits of Magellan during the voyage of the 'Alert,' and referred by me to *L. felina* (P. Z. S. 1881, p. 3), proves, on an examination of its skull, to be really of the same type as "*L. paranensis*." The other specimens mentioned are all really *L. felina*.

² Zoogr. Ross.-Asiat. i. p. 81 (1811).

to vary so much in these Otters that at present I feel quite unequal to a decision as to whether there are one, two, three, or four Neotropical species in addition to those already mentioned. Dr. A. Nehring, in a recent paper¹, has boldly tried to settle the question by lumping all these flat-headed medium-sized Brazilian Otters under one heading, to which he applies the name of *L. latifrons*.

To this I am unable to agree, as some of the Guianan specimens before me appear to be certainly specifically distinct from the South-Brazilian and from the Central-American specimens, but what names will have eventually to be applied to the different forms it is at present impossible to say. *Lutra paranensis*, Rengg. (1830), *L. platensis*, Waterh. (1839), and *L. solitaria*, Wagn. (1842), appear all to refer to the same animal; while for Guianan specimens *Lutra enhydris* and *L. insularis*, F. Cuv. (1823), will have to be reckoned with.

Otters of the naked-nosed flat-headed type, which we may provisionally call *L. paranensis*, occur in the Straits of Magellan, where one was obtained by Dr. Copping, in La Plata (Darwin), Paraguay (Rengger), Rio Grande do Sul (Hensel, Ihering), São Paulo (Natterer), and in Central America (Salvin, Sumichrast, and others). There is also in the Museum a young Otter apparently of this form, which was said to have come from Mexico; but its determination is rather doubtful, although it is certainly distinct from *L. canadensis*. Still further northwards there seems a possibility that this form occurs in Alaska² and on the Mackenzie River³; and should this be the case, Pallas's "*Viverra aterrima*" (Schrenck's *Lutra aterrima*), from the far North-east of Siberia, may also prove to be the present widely-scattered species.

Considering therefore the difficulties of the case, I propose to postpone the consideration of these forms of Otter to a future occasion, and hope that in the meanwhile collectors will help us by obtaining additional material, and also that other authors will contribute their quotas towards the attainment of a satisfactory solution of the question.

To sportsmen and naturalists living abroad it may be pointed out

¹ SB. Nat. Freund. Berl. 1887, p. 23. The new name is given on the ground that none of the half-dozen older names were given in the broader sense covered by Dr. Nehring's name, a plea that no respecter of nomenclature-rules could admit for one moment. To the few zoologists who could suppose such a proceeding admissible it may be pointed out that practically every species is originally described and named on one form only from a single locality, and that it is only afterwards that its variability and geographical range are properly made out. Probably Prof. Nehring would protest were some one to find a "*Otenomys minutus*" in Chili, and were to re-name it on the ground that the describer had not included the Chilian form; and yet this is only what Dr. Nehring has himself done in trying to supersede *Lutra paranensis*, Rengg., *L. platensis*, Waterh., *L. solitaria*, Wagn., and the other names previously given to members of this group of Otters.

² Cf. Coues, Fur-bearing Animals, p. 301 (1877).

³ A new-born animal, apparently an Otter, collected by Mr. B. R. Ross at this locality, and now in the British Museum, is certainly not *L. canadensis*, and may be this species.

that one of the best and most convenient methods of preserving Otters for scientific purposes is simply by cutting off their heads and putting these into spirit. By this means the characters of the nose-pad are preserved, the skull is available for examination if necessary, and the collector is saved the trouble and expense incidental to skinning or sending home the whole animal. Where this is done, however, the sex of each individual should be carefully noted, and marked on a label attached to the head.

Finally it may be of use to give a few of the more diagnostic cranial measurements of the Otters above recognized, since a comparison of the basal length, interorbital breadth, and "lobe-measurement" will enable students in most cases to recognize the species from these few dimensions only. The species are here arranged in order of size, based upon the basal length.

The "lobe-measurement" of p^4 is the distance in a straight antero-posterior line from the most anterior point of the tooth to the most posterior point of the hinder convex edge of its inner lobe. This measurement includes, it is true, a part of the tooth not belonging to the inner lobe, but there appears to be no other way of satisfactorily estimating the size of the lobe. The "basal length" is of course from the basion (back of the basioccipital in the median line) to the gnathion (most anterior point of the premaxillæ). The fairly constant "interorbital" must not be confused with the varying and changeable "intertemporal" breadth.

	Basal length.	Interorbital breadth.	Lobe-measurement of p^4
<i>Lutra brasiliensis</i> , ♀	141·5	18·0	16·1
„ <i>capensis</i> (♂)	129	32·5	13·8
„ „ (♀)	118	26·4	14·0
„ <i>barang</i> , ♂	118	26·5	12·7
„ „ (♀)	108·5	20·8	11·8
„ <i>vulgaris</i> , ♂	114	22·5	8·8
„ „ (♀)	104·8	19·8	8·4
„ <i>sumatrana</i> (♂) (c.)	112	18·8 ¹	9·2
„ „ ♀ (c.)	98	15·2	8·5
„ <i>canadensis</i> , ♂	101·5	24·5	10·1
„ <i>paranensis</i> ²	97	22·5	9·8
„ <i>maculicollis</i> , ♂	96·2	15·5	8·9
„ <i>felina</i> , ♂	80·3	20·0	10·0
„ „ ♀	84·2	21·8	8·6
„ <i>cinerea</i> , ♂	82·2	20·5	9·0
„ „ ♀ (c.)	82·0	18·0	9·5

¹ The sex-mark is here, as elsewhere, placed within brackets where the sex is only presumed from the form or relative size of the skull, and is not known from external or historical evidence.

² From the type specimen of *L. platensis*, Waterh.